



# GENERAL PURPOSE RADIAL LEAD ULTRACAPACITOR CELLS

## **FEATURES**

- Small size and low resistance
- Quick charge and discharge
- RoHS compliant
- Sealed for improved performance in elevated humidity environments
- UL Recognized

### **APPLICATIONS**

- Pulse power demand
- Hybrid battery packs
- Portable electronic devices





### **GENERAL SPECIFICATIONS**

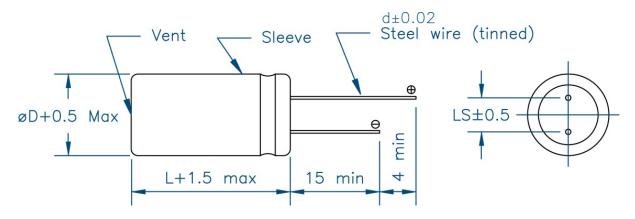
Item	Performance								
Operating temperature	-40°C to +65°C @ 2.7V								
Operating temperature	-40°C to +85°C @ 2.3V								
Storage temperature	-40°C to +70°C								
Capacitance	4F								
Rated voltage	2.7 VDC / 2.3 VDC								
Surge voltage	2.85 VDC								
Temperature characteristics	Capacitance change: Within ±5% of initial measured value at +25°C (-40°C to +65°C)								
	Internal resistance: Within ±50% of initial measured value at +25°C (at -40°C)								
Endurance	After 1000 hours:								
(At rated voltage & max. operating	Capacitance change: ±30% of initial rated value								
temp)	Internal resistance: Within 2 times of initial specified value								
Projected Load life (At rated voltage & 25°C)	After 10 years:								
	Capacitance change: Within ±30 % of initial rated value								
	Internal resistance: Within 2 times of initial specified value								
Projected cycle life	After 500,000 cycles:								
(From rated voltage to 1/2 rated	Capacitance change: Within ±30 % of initial rated value								
voltage at 25°C)	Internal resistance: Within 2 times of initial specified value								
Shelf life	After 2 years at 25°C without load, the capacitor shall meet the specified endurance limits.								
Biased humidity life	3000 hours of continuous charging at VR, 60°C and 90%RH for mechanical integrity								

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## **DIMENSIONS**



### STANDARD PRODUCTS

Part Number	Nom. Cap. (F) GMV (F)*	ESR DC Typical (mΩ)	ESR AC Max. (mΩ) (1 KHz)	Leakage Current (mA) (72 hrs @ 25C)	Dimensions (mm)				Rated Current	Weight/Unit	
					D	L	d	LS	(A)	(grams)	
TPLH-2R7/4.0WR8X20	4	3.6	92	88	0.022	8	20	0.6	3.5	3	1.6

<sup>\*</sup>NOTE: GMV = Guaranteed Minimum Value.